

First record of dwarf flathead *Elates ransonnetii* (Platycephalidae) in the Adriatic Sea

by

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RÉSUMÉ. - Première capture du Platycephalidae *Elates ransonnetii* en mer Adriatique.

Un spécimen d'*Elates ransonnetii* (Steindachner, 1876) a été capturé en mars 2010, en mer Adriatique le long de la côte croate, dans la baie de Kaštela. L'individu, un mâle, a été capturé par 15 m de profondeur sur un fond boueux et mesurait 163 mm de longueur totale. C'est le premier signalement pour la mer Adriatique et le deuxième pour la Méditerranée.

Key words. - Platycephalidae - *Elates ransonnetii* - MED - Adriatic Sea - First record.

The family Platycephalidae includes about 17 genera (Imamura, 1996). These benthic fishes, commonly known as flathead fishes, are mostly inhabitants of tropical and temperate seas. They are characterized by elongated body with moderately to strongly depressed head and large mouth with protruding lower jaw. The genus *Elates*, with one species, *E. ransonnetii* (Steindachner, 1876), is characterized by a single long pre-opercular spine, emarginated caudal fin with a longer upper lobe bearing an elongated filament and a dorsal fin with 6 spines. The eyes are lacking dermal papillae (Knapp, 1999).

The dwarf flathead *E. ransonnetii* is a small fish that inhabits shallower littoral waters down to 53 m in depth on sandy or muddy bottoms. Its maximum total length usually does not exceed 190 mm (Knapp, 1999). This species is common in the Gulf of Thailand and from the Philippines to Papua New Guinea and northern Queensland (Australia) (Froese and Pauly, 2010).

A specimen of *E. ransonnetii* was caught by fish trap (mesh size 22 mm), on 6 March 2010, in Kaštela Bay (Cape Grmovac, near cargo port of the town Kaštel Sućurac, eastern Adriatic, Croatia) (Fig. 1). It was caught at about 15 m depth on a muddy bottom. We

used the taxonomic key of Platycephalidae by Knapp (1999) for the identification of species. Morphometric measurements and meristic counts were recorded.

The specimen is preserved in the ichthyological collection of the Institute of Oceanography and Fisheries in Split, Croatia (Catalogue number-IOR 332).

RESULTS AND DISCUSSION

The specimen is a male of 163 mm in total length (which included the caudal fin filament) and 9.2 g in weight (Fig. 2). Table I shows the main morphometric measurements with the percentages of total length (TL) or head length (HL).

The meristic formula is: D VI-13; A 13; P 20; V I-6; C 5-10-

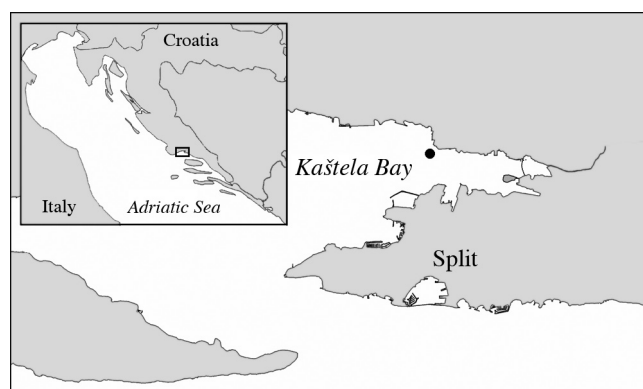


Figure 1. - Map of the Kaštela Bay (Adriatic Sea) showing the capture site (●) of *Elates ransonnetii* (March 2010).

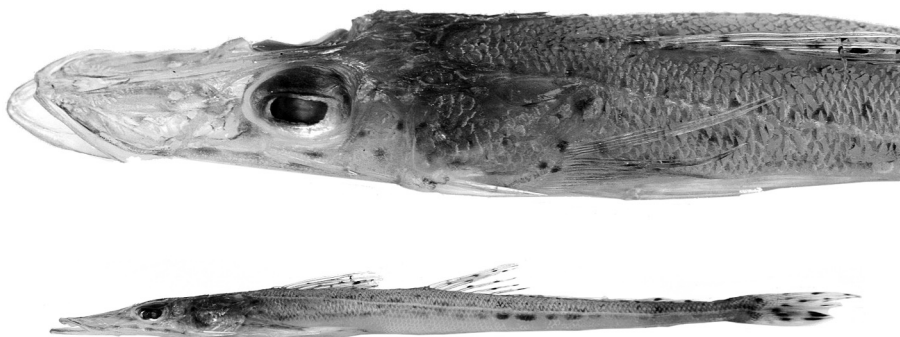


Figure 2. - Specimen of *Elates ransonnetii*, 163 mm TL, caught in Adriatic Sea (March 2010).

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Table I. - Morphometric measurements of *Elates ransonnetii* caught in the Adriatic Sea (March 2010).

Measurements	(mm)	%
Total length including caudal filament (TL)	163.0	-
Fork length	148.1	90.9 TL
Standard length	141.2	86.6 TL
Caudal filament length	6.2	3.8 TL
Pre-anal length	67.6	41.5 TL
Pre-dorsal length	43.9	26.9 TL
Pre-pelvic length	41.3	25.3 TL
Pre-pectoral length	38.8	23.8 TL
Pre-orbital length	17.9	11.0 TL
Body width	10.5	6.4 TL
Body depth	15.9	9.8 TL
Head length until to operculum (HL)	42.9	26.3 TL
Pre-opercular spine	11.2	26.1 HL
Max. eye diameter	7.8	18.2 HL
Upper jaw length	12.3	28.7 HL
Lower jaw length	14.1	32.9 HL

5; LL 105; GR 21 (first gill arch). The head and the body are pale yellow or cream with scattered orange and brown spots along the body. Larger spots are featured along the lateral line while dorsal and caudal fins show scattered black spots.

E. ransonnetii is commonly found in the Western Central Pacific (Froese and Pauly, 2010). There are no records from the Western Indian Ocean and Red Sea (Mastrototaro *et al.*, 2007). No Platycephalidae fish were recorded in the Mediterranean Sea before the opening of the Suez Canal (Golani *et al.*, 2002). The first record of a Platycephalidae in the Mediterranean Sea was *Platycephalus indicus* and it apparently successively spread along the coasts of Egypt and Lebanon (Mastrototaro *et al.*, 2007). There were also findings of single individuals of *Sorsogona prionota* and *Papilloculiceps longiceps* by the Israeli coast (Golani *et al.*, 2002).

In recent years, the number of new fish species found in the Adriatic Sea has rapidly increased (Dulčić *et al.*, 2004; Dragičević and Dulčić, 2009). The record of *E. ransonnetii* represents the first record of this species in the Adriatic Sea and second in the Mediterranean Sea (also the northernmost record in the Mediterranean Sea). The phenomenon of a single specimen found a great distance from its normal geographical distribution has been documented for other species (Lipej *et al.*, 1996; Dulčić, 2005; Dulčić and Golani, 2006). The most probable explanation for the arrival of *E. ransonnetii* into Adriatic is by the means of ballast water or, less probable, as a refugee hidden inside the fouling of a ship. The fact that this species was caught in the close vicinity of the cargo port for large ships supports this hypothesis.

The first record of *E. ransonnetii* in the Mediterranean Sea was on 24 October 2005, along the southern coast of the Gulf of Tarento (North-Western Ionian Sea) near the delta of the stream Lipuda (Mastrototaro *et al.*, 2007). Authors also presumed that the presence of this species in the North-Western Ionian Sea is related to the transport of its young stages with the ballast water of a ship.

Taking into account that only a single specimen was found without any reports of other individuals of this species, its presence

could be characterized as accidental. However, the fact that this species was found alive in an environment ecologically different from its natural habitat, makes it potentially adaptable to such environment. In any case, ballast waters definitely represent a serious vector for introduction of new species, which could have potential impact on the ecosystem, especially if those species succeed in establishing self-sustaining populations.

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